

CLAIMS

We claim:

1. A method of reducing microbial levels on the carcass of an animal during the slaughtering process, the method comprising:
stunning the animal; and
applying a first antimicrobial agent to at least a portion of the hide of the animal, subsequent to stunning and prior to removal of the hide.
2. The method of claim 1 further comprising, after the applying step, drying the hide, such that moisture is substantially removed from the surface of the hide
3. The method of claim 2 further comprising, after the stunning step, exsanguinating the animal to cause clinical death.
4. The method of claim 2 further comprising applying a second antimicrobial agents to the animal hide.
5. The method of claim 2 further comprising rinsing the animal hide.
6. The method of claim 5 further comprising applying a third antimicrobial agent after removing moisture from the animal hide, wherein the third antimicrobial agent is applied only to a hide incision pattern.
7. The method of claim 2 further comprising applying an additional amount of the first antimicrobial agent after removing the animal hide from a carcass, wherein the addition antimicrobial agent is applied only to incisions in the carcass along the hide pattern.

8. The method of claim 2 further comprising further applying a second antimicrobial agent after removing the animal hide from a carcass, wherein the second antimicrobial agent is applied only to incisions in the carcass along the hide pattern.
9. The method of claim 2 further comprising removing the hide from the animal and placing the hide in a transport flume.
10. The method of claim 9 further comprising collecting a waste liquid of the first antimicrobial agent and adding the waste portion to the transport flume.
11. The method of claim 2 wherein the first antimicrobial agent is about four percent sodium hydroxide by volume in water
12. The method of claim 11 wherein the antimicrobial agent is applied to the hide by spraying at a pressure of about 900 psi.
13. The method of claim 2 wherein the first antimicrobial agent includes a surfactant.
14. The method of claim 2 wherein the first antimicrobial agent includes a loosening agent.
15. The method of claim 2 wherein the first antimicrobial agent includes an additive chosen from the group consisting of: bases, acids, esters, oxidizers, enzymes, and treated water.
16. The method of claim 2 wherein the first antimicrobial agent includes an additive chosen from the group consisting of: sodium hydroxide, chlorine, trisodium phosphate, sodium metasilicate, phosphoric acid, fatty acid monoesters, organic acids, and hydrogen peroxide.
17. The method of claim 2 wherein the first antimicrobial agent includes fatty acid monoesters.

18. The method of claim 2 wherein the antimicrobial agent is selected from the group consisting of: sodium hydroxide, chlorofoam, Scalite SR, and trisodium phosphate.
19. The method of claim 2 wherein the spraying the animal hide is performed at a spray pressure of about 900 psi.
20. A method of reducing microbial levels on an animal prior to removal of an animal hide, the method comprising:
- stunning the animal;
 - providing an antimicrobial agent, subsequent to stunning and prior to removal of the hide; and
 - washing the animal hide with the antimicrobial agent, wherein the washing is performed at a pressure of between about 50 psi and about 2000 psi.
21. The method of claim 20 wherein the antimicrobial agent is water.
22. The method of claim 20 wherein the antimicrobial agent includes fatty acid monoesters.
23. The method of claim 20 wherein the antimicrobial agent includes sodium hydroxide.
24. The method of claim 20 wherein the antimicrobial agent is selected from the group consisting of: sodium hydroxide, chlorofoam, Scalite SR, and trisodium phosphate.
25. The method of claim 20 wherein the antimicrobial agent includes an additive chosen from the group consisting of: chlorine, trisodium phosphate, sodium metasilicate, phosphoric acid, fatty acid monoesters, organic acids, and hydrogen peroxide.
26. The method of claim 20 further comprising drying the animal hide.

27. A method of reducing microbial levels comprising:
spraying an animal hide with a first antimicrobial agent;
rinsing the animal hide with a rinse fluid;
drying the animal hide;
removing the animal hide from a carcass of the animal, after the
drying step; and
placing the animal hide in a transport flume having a solution
including an antimicrobial agent.
28. The method of claim 27 wherein the solution is a waste solution
from antimicrobial treatment of the animal hide.
29. The method of claim 28 wherein the waste solution includes
residual antimicrobial agent from spraying the animal hide.
30. The method of claim 27 wherein the first antimicrobial agent
includes water.
31. The method of claim 27 wherein the rinse fluid includes water.
32. The method of claim 27 wherein the first antimicrobial agent is
selected from the group consisting of: sodium hydroxide, chlorofoam, Scalite SR,
and trisodium phosphate.
33. A method of reducing microbial levels on an animal hide, the
method comprising:
removing the animal hide from a carcass; and
placing the animal hide in a transport flume including an
antimicrobial agent.
34. The method of claim 33 wherein the antimicrobial agent is residual
waste from a prior antimicrobial treatment of the animal hide.

35. The method of claim 33 wherein the antimicrobial agent includes chlorine.
36. The method of claim 33 wherein the antimicrobial agent is selected from the group consisting of: sodium hydroxide, chlorofoam, Scalite SR, and trisodium phosphate.
37. A carcass wash room comprising:
- (a) a first wash chamber having a first solution applicator configured to apply a first wash solution to a hide of an animal carcass;
 - (b) a second chamber area having a second solution applicator configured to apply a second wash solution to the hide; and
 - (c) a first rail associated with the first and second wash areas having at least one first shackle hanging from the first rail, the at least one first shackle configured to attach to a first hind leg of the carcass and to carry the carcass through the first and second wash areas.
38. The apparatus of claim 37 further comprising a second rail associated with the first and second wash areas having at least one second shackle hanging from the second rail, the at least one second shackle configured to attach to a second hind leg of the carcass and to carry the carcass through the first and second wash areas.
39. The apparatus of claim 37 further comprising a first drainage area associated with the first wash chamber.
40. The apparatus of claim 39 further comprising a second drainage area associated with the second wash chamber.
41. The apparatus of claim 37 further comprising a first buffer chamber adjacent to the first wash chamber.

42. The apparatus of claim 41 further comprising a second buffer chamber adjacent to the second wash chamber.
43. The apparatus of claim 39 further comprising a second drainage basin associated with the second wash chamber.
44. The apparatus of claim 37 wherein the first wash solution is selected from the group consisting of: sodium hydroxide, chlorofoam, Scalite SR, and trisodium phosphate.